(12) **UK Patent Application** (19) **GB** (11) **2 376 841** (13) **A**

(43) Date of A Publication 24.12.2002

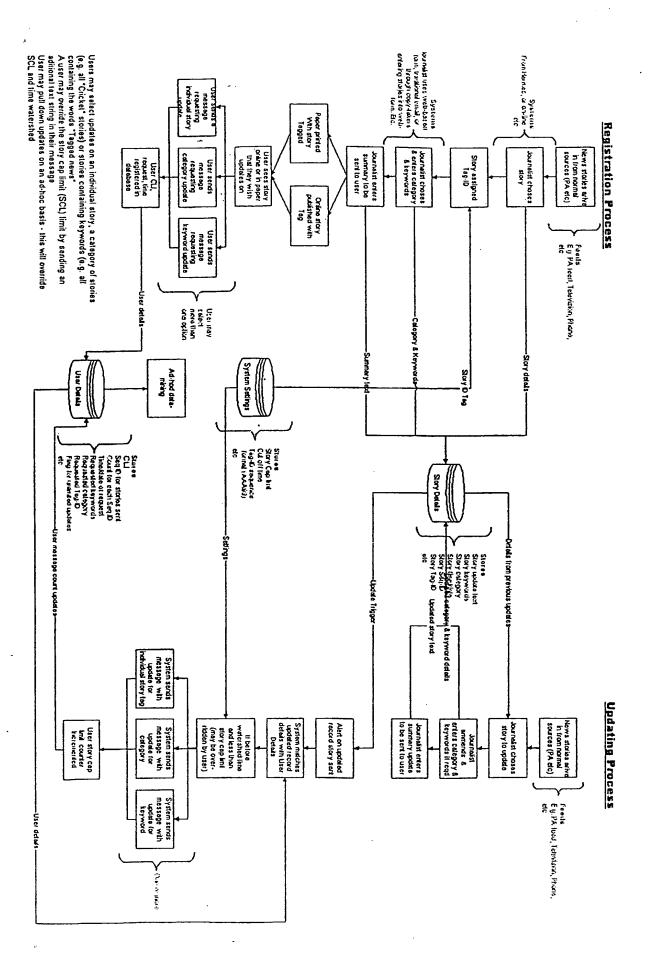|	
(21) Application No 0112445.2	(51) INT CL^7 H04Q 7/22 , H04M 3/493 11/08
(22) Date of Filing 22.05.2001	(52) UK CL (Edition T) H4L LDPC
(71) Applicant(s) **News Omnimedia Limited** (Incorporated in the United Kingdom) **1 Virginia Street, LONDON, E98 1NN, United Kingdom**	(56) Documents Cited GB 2361840 A GB 2361839 A WO 2001/063844 A2 US 20010016483 A1
(72) Inventor(s) **Stephen Van Rooyen Gerard Stubbs**	(58) Field of Search UK CL (Edition T) H4L LDPC LDPPX INT CL^7 H04M 3/493 11/08, H04Q 7/22 Other: Online: WPI, EPODOC, PAJ
(74) Agent and/or Address for Service **Olswang 90 Long Acre, LONDON, WC2E 9TT, United Kingdom**	

(54) Abstract Title
News Services

(57) A method for delivering a news update to a reader's mobile device is disclosed. A request for a news update is received from the reader's mobile device, this request including an identifier for the mobile device and an identifier for a class of news updates the reader wishes to receive. On subsequent receipt of a news update, which has been pre-assigned one or more class identifiers, it is determined whether a class identifier assigned to the news update matches the class identifier in the reader's request. If a match is found, the news update is sent to the reader's mobile device.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

GB 2 376 841 A

Registration Process

News stories arrive in from normal sources (PA etc)

Feeds
E.g. PA feed, Television, Phone, etc

Systems from Internet, or online etc

Journalist chooses story

Story assigned Tag-ID

Journalist chooses category & keywords

Journalist enters category & keywords

Journalist enters summary to be sent to user

Paper printed with story Tagged

Online story published with Tag

User sees story online or in paper that they wish updates on

User may select more than one option

User sends message requesting category update

User sends message requesting keyword update

User sends message requesting individual story update

User CLI, request, line registered in database

Systems uses web-based form, traditional email or (from) copywriters entering stories into web-form. Etc.

Story details

Story ID Tag

Category & Keywords

Summary feed

User details

User Details (database)

Ad-hoc data-mining

System Settings (database)

Stores
CLI
Story Cap limit
Cut off time
Tag-ID sequence
(small / AAAA9)
etc

Story Details (database)

Stores
CLI
Seq ID for stories sent
count for each SenD
Timetable of request
Requested keywords
Requested category
Requested Tag-ID
Flag for wanted updates
etc

Settings

User message count updates

Users may select updates on an individual story, a category of stories (e.g. all 'Cricket' stories) or stories containing keywords (e.g. all containing the words 'Tagged news'
A user may override the story cap limit (SCL) limit by sending an additional text string in their message
User may pull down updates on an ad-hoc basis - this will override SCL and time watershed

Updating Process

News stories arrive in from normal sources (PA etc)

Feeds
E.g. PA feed, Television, Phone, etc

Journalist chooses story to update

Journalist amends & enters category & keywords if reqd

Journalist enters summary update to be sent to user

Stores
Story update text
Story keywords
Story category
Story Tag-ID
etc

Details from previous updates

Update Trigger

Updated story feed

Alert on updated record story sent

System matches updated record details with User Details

If before watershed line and less than story cap limit (may be over-ridden by user)

System sends message with update for individual story tag

System sends message with update for category

System sends message with update for keyword

User story cap limit counter incremented

Over-ridden

User details

News Services

Field of the Invention

The present invention relates to a methods and systems for the provision of news services, in particular

5 although not necessarily exclusively a service for providing updates in relation to a previously published news story.

Background

In the following, unless the context otherwise

10 requires:

the term 'news' refers generally to any information, fictional works, audio content (including spoken words, music and ring-tones for instance) and/or graphics and in preferred embodiments of the invention refers to

15 information relating to current or recent events, including for instance current affairs, political events, sporting events, etc;

a 'news item' is one instance of news; and

the term 'news story' refers to a textual,

20 graphical, video/film or audible report or account of one or more news items, suitable for example for publication in a printed newspaper or on-line or for broadcast over e.g the radio or a television network.

A traditional approach to reporting news is to

25 publish news stories in a printed newspaper, typically published on a daily basis. With the advent of the Internet and the World Wide Web, it has also become common to publish the news stories on-line, i.e. on a web

2

site. News items are also broadcast over terrestrial and
digital television and radio channels.

   Although printed newspapers are still by far the
most popular delivery mechanism for news stories, they do
5 suffer from the disadvantage that they can only capture a
snap shot of the news. That is to say, unlike news
stories on a web site which can be easily updated and
news items reported on television or radio, where a
updated versions of a story will typically be broadcast
10 throughout a day, news stories published in papers cannot
be easily updated.

   It can also be noted that even with web-based or
broadcast news, the delivery of the news stories to a
reader is reliant on them logging on to a web site or
15 turning on the television or radio.

   Summary of the Invention

   It is a general aim of the present invention to
offer a convenient approach to delivering news stories to
a reader and a more particular aim to use this approach
20 to deliver updates of news stories to the reader. In
this context an update (or 'news update') is intended to
refer to additional information related to a previously
published news story.

   In a first aspect, the invention provides a method
25 for delivering a news update to a reader, the reader
being in possession of a mobile device, the method
comprising:
   receiving from the reader's mobile device a request
for news updates, the request including an identifier for

the mobile device and an identifier for a class of news updates the reader wishes to receive;

receiving a news update pre-assigned one or more class identifiers;

5   determining whether a class identifier assigned to the news update matches the class identifier in the reader's request; and

if the class identifiers match, sending the news update to the reader's mobile device.

10   The class identifiers may be, for instance, a story id unique to a particular news story, a category id associated with a category of news story or one or a series of key words. Although each request from the reader preferably only includes a single class identifier

15   (a single reader may of course submit multiple requests with different identifiers), it is preferred that each news update is assigned more than one identifier. For instance, an update may be assigned a story ID to identify the specific story with which it is associated,

20   one or more category IDs and a series of keywords.

Where a news update is assigned a plurality of class identifiers it is possible that more than one match with a reader's request or a series of requests from the same reader will occur. In such cases it is desirable,

25   however, that the reader is only sent a single instance of the update.

As subsequent news updates are received, each of which will assigned one or more class identifiers, the checking process to determine matches with requests from

30   readers is repeated to identify any matches of the class identifiers of updates and request. In this way a reader

can be sent a series of updates over time in relation to
a particular breaking news story or category of news
story for instance.

To avoid a reader being inundated with news updates,
5 preferably the number of news updates sent to a reader's
mobile device in response to a single request is limited
to a pre-determined maximum number. For instance, a
reader may be limited to receiving 4 updates in response
to their request, after which they will be required to
10 submit a further request if additional updates are
wanted. The maximum number of requests may be fixed by
the system or, alternatively, be determined by a
parameter in the reader's request. There may also be
occasions where the user does not wish any limit to be
15 placed in the number of updates that they are sent. It
is preferably possible, therefore, for the reader to
override the limit on the maximum number of news updates
sent in response to their request, for example by
including in their request an unlimited update flag.

20 It will also normally be desirable to limit the time
over which requests are sent to the reader. For example,
with a breaking news story it may be appropriate to
retain readers' requests on a daily basis, a reader
having to re-submit their request the next day if the
25 story is ongoing. Preferably, therefore, the reader's
request is set to automatically expire at a pre-
determined time or after a predetermined period of time
from receipt of the request. As with the maximum number
of requests, it may be useful if this expiry of the
30 request can be overridden by the user. This may be

achieved, for instance, by allowing for the inclusion of a non-expire flag in the request to indicate this.

To provide the reader with the class identifiers to include in their request, the identifiers (in particular
5   the story IDs) are preferably published along with the news story to which they relate, for example printed adjacent a story in a newspaper or published adjacent an on-line story on a web site.

In this way, when a reader sees a news story in
10 which they are particularly interested (either on-line or in a newspaper or other printed publication), all they need do is send a request to the news provider, including the story ID (or other class identifier) published with the story, and they will be sent news updates associated
15 with that story.

In another aspect, the invention provides a system for delivering a news update to a reader, the reader being in possession of a mobile device, the system comprising:
20   storage means for storing requests from the reader's mobile device;
        means for receiving from the reader's mobile device a request for news updates and for storing the request in said storage means, the request including an identifier
25 for the mobile device and an identifier for a class of news updates the reader wishes to receive;
        means for receiving a news update pre-assigned one or more class identifiers;
        processing means for determining whether a class
30 identifier assigned to the news update matches the class identifier in the reader's request; and

transmission means for sending the news update to the reader's mobile device if the class identifiers match.

In yet another aspect there is provided a method by which a reader can receive news updates from a system according to claim 19, the method comprising:

sending to the system from a mobile device a request for news updates, the request including an identifier for the mobile device and an identifier for a class of news updates the reader wishes to receive; and

receiving one or more news updates from the system.

Brief Description of the Drawing

The invention is described below, by way of example, with reference to the accompanying drawing in which the sole figure is a process diagram illustrating the operation of an embodiment of the invention.

Description of an Embodiment

The system and process illustrated schematically in the figure provide a service that enables readers to use mobile devices, for instance mobile phones, Personal Digital Assistants (PDAs) and the like, to keep up to date with news stories published e.g. in their morning paper (or on-line) as the story progresses through the day. The system may also be used for updates in relation to news stories made available through other channels of media, including for example periodical publications, television and radio.

There are two main stage to the process: the submission of requests to the system by the readers to

register their interest in a news story; and the
distribution of news updates to the readers as and when
they become available. These to stages are explained in
turn below with reference to the figure. For

5   convenience, the system will be described in the context
of newspaper stories, but it will be appreciated that
this is only one example of a mechanism by which news
stories can be made available to the readers in the first
instance. For instance, the stories could be published

10   on-line.

Initially, a journalist selects from the news
stories arriving from normal sources (e.g. "newswire"
feed, telephone, television, internet, etc) a story which
they believe is likely to develop throughout the day.

15   The selected story is assigned a unique story ID
(referred to as a Tag-ID), which will be printed in the
paper along with the story. This ID is preferably
assigned automatically by the system to ensure its
uniqueness and in this example is assigned using the next

20   available ID from a sequence held in a 'Systems Settings'
database.

The journalist can then also assign the story to one
or more categories. The categories may be broad, such as
'politics', 'sport', etc, or more detailed, such as

25   'cricket' or 'rugby' for example. One or more key words
may also be assigned to the story by the journalist and a
summary of the story may also be usefully included.

Conveniently, all of these story details can be
submitted to the system on a simple electronic form which

30   also includes the story itself. Once submitted, the

story details, including the Tag-ID, categories and key words is stored in a Story Details data base.

When the story is printed in the newspaper, the Tag-ID is, as noted above, published along side it.
5   Categories and key words may also be published in the paper, either alongside the story or elsewhere, or be made available to the reader in some other way.

When a reader sees a tagged story that they are interested in receiving updates for through the day, they
10 can register for the updates by submitting a request to the system. They may register for updates in relation to only the story itself by including the Tag-ID in their request, or for a category of story or for any stories including particular key words including a category-ID or
15 key words in the request.

In the embodiment described here, the reader registers their interest with the system by sending the system a text message (e.g. an SMS message) to the system from a mobile device such as a cellular mobile telephone,
20 the message including the Tag-ID, category-ID or key words of interest against which updates should be matched. For example, if a story printed in The Times newspaper is tagged "GGS68", an appropriate format of text message to require the user to send would be "TIMES
25 STORY GGS68", although numerous other formats are of course possible. The telephone number to which the message should be sent can be made available to the reader in the newspaper itself for instance.

In the case of an SMS message, it is a feature of
30 the protocol that the mobile device's number is included

with the sent message. This number can therefore be
captured by the system along with the reader's request
including the Tag-ID or other identifier. In cases where
the mobile device's number (or other address) is not

5   automatically appended to the message, the reader can be
asked to append the number themselves.

The request and mobile device's number are stored in
a 'User Details' database. Additionally, the database is
used to store the time and date of the request, a Seq.ID

10   (that is a unique identifier or dB record number) for
updates sent, a count for each update Seq.ID (which can
be used in determining how many updates a reader has been
sent), and a flag for unlimited updates, the purpose of
which will be explained below.

15   Other mobile devices, for example PDAs with a
suitable modem interface may be used to send the message.
The request may also be submitted in other formats, via a
website accessible from a WAP enabled cellular telephone
or PDA for instance.

20   Turning now to the distribution of news updates to
the registered reader's, as can be seen in the process
flow illustrated to the right hand side of the figure,
the process is initiated by receipt of a news story from
the normal sources. A journalist determines whether the

25   new story is associated with any of the previously tagged
stories, by interrogating the 'Story Details' database.
Assuming they find an existing story to update, they
complete an electronic form with the text to be included
in the transmitted update, as well as one or more

30   category-IDs and keywords if appropriate. This update

information is then sent to and stored in the 'Story Details' database.

Storing the new update to the database triggers an automated story update process. First an alert on the
5 updated record story is sent. This is a call sent to the 'User Details' database to extract details for the readers to whom the update should be sent. In other words, it causes the system to interrogate the 'User Details' database to identify those readers who have
10 registered an interest either in the updated story itself (i.e. submitted the Tag-ID for that story), or the category or key words associated with the update.

For each reader selected in this process, the system then checks whether they have already been sent a pre-
15 determined maximum number of updates in response to their request. The number of updates for a story sent to any particualr reader is stored as a 'Count' against their record in the 'User Details' database to enable this check. The maximum number, or story cap limit (SCL) is
20 set by a parameter defined in the 'System Settings' database in this example and is used to ensure that the reader is not inundated with an excessive number of updates. If the limit has been reached, no update is sent to the reader.

25 If a reader desires to receive additional updates, they can of course re-register with the system to receive another series of updates until the SCL is once again reached. Alternatively, the reader can indicate in their initial request (or any subsequent request) that they
30 wish to receive unlimited updates. For instance, this might be achieved by using a differently worded SMS

message, e.g. "TIMES UPDATE GGS68", the inclusion of the word "UPDATE" indicating that no limit should be placed on the number of updates sent in response to the request. Submitting a request of this form, sets the unlimited

5 update Flag in the User Details database for that request to TRUE. For any request record in which this Flag is TRUE, the system ignores the SCL when determining whether or not to send an update.

In addition to checking whether the SCL has been

10 exceeded, the system also determines whether a selected request has expired. In this example, all requests are set to expire at a predetermined time determined by a parameter set in the 'System Settings' database, e.g. 10pm. An alternative would be to give each request a

15 particular duration, the expiry of any particular request being determined based on this duration and the time/date of receipt of the request. As with the case where the SCL is exceeded, an update is not sent in response to any request which has expired in time, unless this

20 restriction is overridden in the reader's request.

The system then sends the update, in this example in the form of an SMS text message, to the mobile devices associated with any requests that have not been eliminated as expired or having exceeded their SCL. In

25 other embodiments of the invention, the updates may be sent (and indeed requested) via other mobile user interface devices. Examples include WAP (wireless application protocol) or otherwise 'web' enabled devices, wireless devices having an appropriate SIM toolkit

30 installed, mobile devices employing some other form of

menu structure, or via access to an IVR (interactive
voice response) system.

If a reader has submitted multiple requests, it is
possible that they will have more than one request that
5 matches any particular update. For example, a reader may
have submitted a request in relation to a report on a
particular political story, a request for the category
'Politics' and the key words 'Downing Street'. An update
for the specific story might then also match with the
10 category and key words request as well as the story
itself. In such cases, it is desirable that the reader
is only sent one instance of the update. Before sending
the update, the system therefore checks for duplicate
mobile device numbers (or other addresses) in the list of
15 requests, and eliminates any duplicates.

Once an update has been sent, a counter associated
with each request in response to which the update has
been sent is updated to be checked against the SCL next
time a relevant update is received.

20 In this way, a system for conveniently and
automatically keeping a reader updated throughout the day
about breaking news stories is provided.

Claims

1. A method for delivering a news update to a reader, the reader being in possession of a mobile device, the method comprising:

5   receiving from the reader's mobile device a request for news updates, the request including an identifier for the mobile device and an identifier for a class of news updates the reader wishes to receive;

          receiving a news update pre-assigned one or more

10   class identifiers;

          determining whether a class identifier assigned to the news update matches the class identifier in the reader's request; and

          if the class identifiers match, sending the news

15   update to the reader's mobile device.

2. A method according to claim 1 wherein said class identifier in the reader's request is a story id unique to a particular news story.

3. A method according to claim 1 wherein said class

20   identifier in the reader's request is a category id associated with a category of news story.

4. A method according to claim 1 wherein said class identifier in the reader's request is one or a series of key words.

25   5. A method according to any one of the preceding claims, wherein the class identifier or identifiers assigned to the news update comprise one or more of a story id, a category id or one or a series of key words.

6. A method according to any one of the preceding claims,
   wherein the news update is assigned a plurality of
   class identifiers, the step of determining whether a
   class identifier assigned to the news update matches
   the class identifier in the reader's request comprising
   checking each class identifier assigned to the news
   update in turn and sending the news update to the
   reader's mobile device when a identifier matching the
   identifier in the user's request is identified.

7. A method according to claim 6, wherein if the news
   update is assigned two or more class identifiers that
   match the class identifier of the request only a single
   instance of the news update is sent to the reader's
   mobile device.

8. A method according to any one of the preceding claims
   wherein a plurality of further news updates are
   received, each news update being assigned one or more
   class identifiers, on receipt of each news update it
   being determined whether any class identifier assigned
   to the update matches the class identifier of the
   reader's request, the or each news update having a
   class identifier assigned that matches the class
   identifier of the request being sent to the reader's
   mobile device.

9. A method according to claim 8, wherein the number of
   news updates sent to a reader's mobile device in
   response to a single request is limited to a pre-
   determined maximum number.

10. A method according to claim 9, wherein the reader
    can override the limit on the maximum number of news

updates sent in response to their request by including in their request an unlimited update flag.

11.   A method according to any one of the preceding claims, wherein the reader's request expires at a pre-determined time or after a predetermined period of time, no news updates being sent to the reader's mobile device after expiry of the request.

12.   A method according to claim 11 wherein the reader can override the expiry of their request by including in the request a non-expire flag.

13.   A method according to any one of the preceding claims, wherein the reader submits a plurality of requests, each request comprising a class identifier, the step of determining whether a class identifier assigned to the news update matches the class identifier in the reader's request comprising checking each the or each class identifier assigned to the news update and determining whether it or they match a class identifier of any one of the reader's plurality of requests and sending the news update to the reader's mobile device when a identifier matching the identifier in the user's request is identified.

14.   A method according to claim 13, wherein only a single instance of the news update is sent to the reader's mobile device even if a match with more than one of the reader's requests is identified.

15.   A method according to any one of the preceding claims, comprising the step of providing the reader with the class identifiers to include in their request.

16.   A method according to claim 15, wherein said provided class identifier is provided in association with a news story for which updates will be provided.

17.   A method according to claim 16, wherein the news story is provided to the reader in a printed publication, the class identifier being printed in the publication adjacent the news story.

18.   A method according to claim 16, wherein the story is published to the reader online on a web site, the class identifier being published on the same web site as the news story.

19.   A system for delivering a news update to a reader, the reader being in possession of a mobile device, the system comprising:

storage means for storing requests from the reader's mobile device;

means for receiving from the reader's mobile device a request for news updates and for storing the request in said storage means, the request including an identifier for the mobile device and an identifier for a class of news updates the reader wishes to receive;

means for receiving a news update pre-assigned one or more class identifiers;

processing means for determining whether a class identifier assigned to the news update matches the class identifier in the reader's request; and

transmission means for sending the news update to the reader's mobile device if the class identifiers match.

20. A method by which a reader can receive news updates
    from a system according to claim 19, the method
    comprising:

    sending to the system from a mobile device a request
    for news updates, the request including an identifier
    for the mobile device and an identifier for a class of
    news updates the reader wishes to receive; and

    receiving one or more news updates from the system.

21. A method according to claim 19, wherein the reader's
    request includes an unlimited update flag.

22. A method according to claim 19 or 20, wherein the
    reader's request includes a non-expiry flag.

23. A method according to any one of claims 19 to 21,
    wherein the class identifier to be included in the
    request is made available to the reader in association
    with a news story.

24. A method according to claim 23, wherein the news
    story is provided to the reader in a printed
    publication, the class identifier being printed in the
    publication.

25. A method according to claim 24, wherein the class
    identifier is printed directly adjacent the news story.

26. A method according to claim 23, wherein the story is
    published to the reader online on a web site, the class
    identifier being published on the same web site as the
    news story.

27. A computer program which is executable on a computer to cause the computer to operate in accordance with the method of any one of claims 1 to 18.

28. A computer program according to claim 27 stored on a computer readable media.

INVESTOR IN PEOPLE

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

    UK Cl (Ed.T): H4L (LDPC, LDPPX)

    Int Cl (Ed.7): H04Q 7/22, H04M 11/08, H04M 3/493

Other: Online: WPI, EPODOC, PAJ

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2 361 840 A	(WILSON) see whole document, especially page 1 lines 9-13, page 2 lines 3-18 and page 3 line 17 to page 4 line 6.	1, 2, 3, 4, 5, 6, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27 and 28
X	GB 2 361 839 A	(WILSON) see whole document, especially page 1 line 17 to page 2 line 2.	1, 2, 3, 5, 6, 19, 20, 27 and 28
X	WO 01/63844 A2	(mBLOX) see whole document, especially page 4 line 22 tp page 5 line 22.	1, 2, 3, 4, 5, 6, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28
X	US 2001/0016483	(NEC) see whole document, especially figure 2 and paragraphs 18-26.	1, 2, 3, 4, 5, 6, 13, 15, 16, 19, 20, 27 and 28.

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

An Executive Agency of the Department of Trade and Industry